

1163-D5-1310 **Monica M VanDieren*** (vandieren@rmu.edu). *Integrating WeBWorK, CalcPlot3D, and Flipgrid in a mostly asynchronous online multivariable calculus class.* Preliminary report.

When face-2-face classes were canceled and my multivariable calculus abruptly moved online, I turned to WeBWorK. The platform, along with its extensive Open Problems Library (OPL), provided enough utility to not only serve as a summative assessment tool, but also as a means to deliver asynchronous content and formative assessments to my students. By integrating CalcPlot3D and Flipgrid (a video-based discussion board) into WeBWorK problems, I was able to deliver an asynchronous course completely within the WeBWorK platform. In this talk I will discuss how I leveraged the OPL and small changes to the essay prompt, solution subroutine, and iframe embeddings to create lectures with conceptual understanding exit tickets, often involving interactive CalcPlot3D graphics. I'll discuss how I used the essay prompt in WeBWorK to integrate Flipgrid as not only a summative assessment tool but also as a way to build community among the students with virtual study groups. Through weekly check-ins with students in WeBWorK, I also monitored student progress on meta-cognitive learning outcomes, which were of increasing importance as the students adapted to a new learning environment. (Received September 15, 2020)